

AMENDMENTS

Please cancel claims 5 and 12-16 without prejudice and new claims 23-84 as follows:

--23. A method of preparing a pharmaceutical composition, comprising the steps of:

- (a) providing a plurality of dendritic cells or macrophages that either (i) are pulsed with one or more gp55, gp 95, gp115, or gp210 antigens of hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells or (ii) are transfected with nucleic acid capable of expressing said one or more gp55, gp95, gp115, or gp210 antigens of said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells or their precursors;
- (b) expressing said one or more gp55, gp95, gp115, or gp210 antigens from said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells in the MHC class I or MHC class II complexes of said dendritic cells or macrophages;
- (c) providing a plurality of ~~a~~ bispecific monoclonal antibodies comprising one or more binding sites for one or more CD28 or 4-1BB molecules on the surface of T cells in a patient mammal and one or more binding sites for said gp55, gp95, gp115 or gp210 antigens;
- (d) attaching said bispecific monoclonal antibodies to said dendritic cells or macrophages; and
- (e) thereafter collecting a pharmaceutically effective amount of said dendritic cells or macrophages with said bispecific monoclonal antibodies attached thereto; wherein said dendritic cells or macrophages are fused with said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells ~~in~~ said patient mammal and wherein said steps (c) and (d) are performed either before or after said step (b).

24. The method of claim 23, wherein said one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells comprise one or more hepatocellular carcinoma cells.

25. The method of claim 23, wherein said one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells comprise one or more lymphoma cells.

26. The method of claim 23, wherein said one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells comprise one or more colon carcinoma cells.

27. The method of claim 23, wherein said one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells comprise one or more gastric cancer cells.

28. The method of claim 23, wherein said one or more CD28 or 4-1BB molecules comprise one or more CD28 molecules.

29. The method of claim 23, wherein said one or more CD28 or 4-1BB molecule comprise one or more 4-1BB molecules.

30. The method of claim 23, wherein said patient mammal is a human.

31. The method of claim 23, wherein the one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells are treated with IFN- γ .

32. The method of claim 23, wherein the one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells are treated with TNF- α .

33. The method of claim 23, wherein the one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells are treated with IFN- γ and TNF- α .

34. The method of claim 23, wherein said T cells are CD3+CD8+CD25+ T cells.

35. The method of claim 23, wherein said antibodies comprise two or more antigen binding sites for one or more gp55, gp95, gp115, or gp210 antigens on the surface of said one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells.

36. The method of claim 23, wherein said antibodies comprise two or more binding sites for said one or more CD28 or 4-1BB molecules on the surface of T cells in said patient mammal.

37. The method of claim 23, wherein said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells are treated with 10-100 U of IFN- γ and 10-100 U of TNF- α .

38. The method of claim 23, wherein said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells are treated with 100 U of IFN- γ and 50 U of TNF- α .

39. The method of claim 24, where said hepatocellular carcinoma cells are hepa 1-6 cells.

40. The method of claim 25, wherein said lymphoma cells are EL-4 cells.

41. The method of claim 26, wherein said colon carcinoma cells are SMCC-1 cells.

42. The method of claim 23, wherein said dendritic cells or macrophages either (i) are pulsed with gp55, gp95, gp115, or gp210 antigens of said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells.

43. The method of claim 23, wherein said dendritic cells or macrophages are transfected with nucleic acid capable of expressing said one or more gp55, gp 95, gp115, or

gp210 antigens of said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells or their precursors.

44. The method of claim 23, wherein said one or more gp55, gp95, gp115, or gp210 antigens comprise gp55 antigens.

45. The method of claim 23, wherein said one or more gp55, gp95, gp115, or gp210 antigens comprise gp95 antigens.

46. The method of claim 23, wherein said one or more gp55, gp95, gp115, or gp210 antigens comprise gp115 antigens.

47. The method of claim 23, wherein said one or more gp55, gp95, gp115, or gp210 antigens comprise gp210 antigens.

48. The method of claim 23, wherein said MHC class I or MHC class II is MHC class I.

49. The method of claim 23, wherein said MHC class I or MHC class II is MHC class II.

50. An immunogenic composition, comprising:

a pharmaceutically effective amount of one or more isolated or enriched dendritic cells or macrophages which presents one or more gp55, gp95, gp115, or gp210 antigens of hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells in the MHC class I or MHC class II complex of said dendritic cells or macrophages; wherein said dendritic cells or macrophages either (i) are pulsed with gp55, gp95, gp115, or gp210 antigens of said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells or (ii) are transfected with nucleic acid capable of expressing said one or more gp55, gp95, gp115,

or gp210 antigens of said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells or their precursors; and

a pharmaceutically effective amount of one or more bispecific monoclonal antibodies comprising one or more binding sites for one or more CD28 or 4-1BB molecules on the surface of T cells in a patient mammal, and one or more binding sites for said gp55, gp95, gp115, or gp210 antigens, wherein said bispecific monoclonal antibodies are attached to said dendritic cells or macrophages, and wherein said dendritic cells or macrophages are fused with said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells in said patient mammal.

51. The composition of claim 50, wherein said composition is isolated.

52. The composition of claim 50, wherein said composition is enriched.

53. The composition of claim 50, wherein said composition is purified.

54. The composition of claim 50, wherein said one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells comprise one or more hepatocellular carcinoma cells.

55. The composition of claim 50, wherein said one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells comprise one or more lymphoma cells.

56. The composition of claim 50, wherein said one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells comprise one or more colon carcinoma cells.

57. The composition of claim 50, wherein said one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells comprise one or more gastric cancer cells.

58. The composition of claim 50, wherein said one or more CD28 or 4-1BB molecules comprise one or more CD28 molecules.

59. The composition of claim 50, wherein said one or more CD28 or 4-1BB molecule comprise one or more 4-1BB molecules.

60. The composition of claim 50, wherein said patient mammal is a human.

61. The composition of claim 50, wherein the one or more hepatocellular carcinoma, lymphoma, colon carcinoma cells or gastric cancer cells are treated with IFN- γ .

62. The composition of claim 50, wherein the one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells are treated with TNF- α .

63. The composition of claim 50, wherein the one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells are treated with IFN- γ and TNF- α .

64. The composition of claim 50, wherein said T cells are CD3+CD8+CD25+ T cells.

65. The composition of claim 50, further comprising a pharmaceutically acceptable carrier or excipient.

66. The composition of claim 50, wherein said antibodies comprise two or more antigen binding sites for one or more gp55, gp95, gp115, or gp210 antigens on the surface of said one or more hepatocellular carcinoma cells, colon carcinoma cells or gastric cancer cells.

67. The composition of claim 50, wherein said antibodies comprise two or more binding sites for said one or more CD28 or 4-1BB molecules on the surface of T cells in said patient mammal.

68. The composition of claim 50, wherein said composition comprises two or more antibodies comprising one or more antigen binding sites for one or more gp55, gp95, gp115, or gp210 antigens on the surface of said one or more hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells.

69. The composition of claim 50, wherein said composition comprises two or more antibodies each comprising a binding site for a different one of said CD28 or 4-1BB molecules.

70. The composition of claim 50, wherein said composition comprises two or more antibodies each attached to a different antigen.

71. The composition of claim 50, further comprising a pharmaceutically effective amount of IFN- γ , TNF- α , or both.

72. The composition of claim 50, wherein said hepatocellular carcinoma cells, lymphoma, colon carcinoma cells or gastric cancer cells are treated with 10-100 U of IFN- γ and 10-100 U of TNF- α .

73. The composition of claim 50, wherein said hepatocellular carcinoma cells, lymphoma, colon carcinoma cells or gastric cancer cells are treated with 100 U of IFN- γ and 50 U of TNF- α .

74. The composition of claim 54, where said hepatocellular carcinoma cells are hepa 1-6 cells.

75. The composition of claim 55, wherein said lymphoma cells are EL-4 cells.

76. The composition of claim 56, wherein said colon carcinoma cells are SMCC-1 cells.

77. The composition of claim 50, wherein said dendritic cells or macrophages either

(i) are pulsed with gp55, gp95, gp115, or gp210 antigens of said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells.

78. The composition of claim 50, wherein said dendritic cells or macrophages are transfected with nucleic acid capable of expressing said one or more gp55, gp 95, gp115, or gp210 antigens of said hepatocellular carcinoma cells, lymphoma cells, colon carcinoma cells or gastric cancer cells or their precursors.

79. The composition of claim 50, wherein said one or more gp55, gp95, gp115, or gp210 antigens comprise gp55 antigens.

80. The composition of claim 50, wherein said one or more gp55, gp95, gp115, or gp210 antigens comprise gp95 antigens.

81. The composition of claim 50, wherein said one or more gp55, gp95, gp115, or gp210 antigens comprise gp115 antigens.

82. The composition of claim 50, wherein said one or more gp55, gp95, gp115, or gp210 antigens comprise gp210 antigens.

83. The composition of claim 50, wherein said MHC class I or MHC class II is MHC class I.

84. The composition of claim 50, wherein said MHC class I or MHC class II is MHC class II.--.